



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,991	05/27/2003	Christopher John Andrew Barnardo	DHN/319/PC/US	9984
2543	7590	12/13/2004	EXAMINER	
ALIX YALE & RISTAS LLP			ROY, SIKHA	
750 MAIN STREET				
SUITE 1400			ART UNIT	
HARTFORD, CT 06103			PAPER NUMBER	
			2879	

DATE MAILED: 12/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/019,991

Applicant(s)

BARNARDO ET AL.

Examiner

Sikha Roy

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/20/01.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,15,17,18 and 21-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,15,17,18 and 21-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 May 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

The Preliminary Amendment, filed on November 20, 2001 has been entered and is acknowledged by the Examiner.

Cancellation of claims 3-14,16 and 19,20 and addition of new claims 21-35 have been entered.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the plurality of electrically-conductive, transparent front- electrode segments and plurality of electroluminescent material segments as claimed in claims 21 and 22 must be shown or the feature(s) canceled from the claim(s). Furthermore the second layer, fourth layer and sixth layer formed as layers of a printed circuit board as claimed in claims 31 and 32 must be shown or the feature(s) canceled from the claim(s).

No new matter should be entered.

The examiner also notes that page 3 with Fig. 3 is missing from Drawings submitted May 27, 2003. Applicant is requested to send a copy of Fig. 3.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet,

and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The plurality of backplane track-elements as claimed in claims 24 - 28 has not been disclosed in the specification and thus is failing to provide proper antecedent basis for the subject matter of claims 24-28.

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2879

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,17,18, 22, 24, 27-29 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,757,128 to Topp.

Regarding claim 1 Topp discloses (Fig. 9 column 8 lines 13-61, column 12 lines 49-60 Fig. 16) an addressable electroluminescent display 100 comprising a first layer (substrate 102 having transparent first electrode 104), a second layer 112 comprising plurality of electrically conductive rear electrode segments (group electrode segments 114,116,118) a third layer (phosphor layer) 106 between first and second layers comprising electroluminescent material, a fourth layer 128 (wiring layer) comprising plurality of electrically conductive tracks 130,132,134 each of which is electrically connected at a first end to each of the rear electrode segments, a fifth layer (a group electrode insulating layer) 126 located between the fourth layer and sixth layer 122 following substantially the path of the electrically-conductive tracks 128, a sixth layer (back electrode) 122 located between the third layer 106 and fifth layer 126 comprising conductive backplane connected to the front-electrode such that the potential difference across the third layer in the region of sixth layer is substantially zero, the backplane following the path of the conductive tracks 130,132,134 (back electrode provided intermediate between the group electrode segments and the conductive tracks) and driving voltage supplied across the first layer (first electrode) and the second layer (rear electrode with group electrode segments) for driving the display.

Regarding claim 2 Topp discloses in Figs. 15,16 the addressable display comprising display areas having shapes of graphical element (letters for OFF,ON) and each of which may be separately, selectively illuminated. Topp discloses the second layer (rear electrode with group segments) shaped in the form of graphical elements (letters).

Regarding claim 17 Topp discloses (Fig. 9 column 8 lines 13-61) an electroluminescent display 100 comprising a first transparent electrode 104, at least one second electrode 116, a layer of EL material 106 located between first and second electrodes, an electrical conductor in the form of a conductive track 132, electrically connected to the second electrode and arranged to supply driving voltage for the EL material to the second electrode, an electrically conductive layer 122 which is provided between the EL layer 106 and the electrical conductor 132 substantially following the path of the electrical conductor and electrically connected to the first electrode 104 via track 136' and a first dielectric layer 126 located between the electrical conductor 132 and the conductive layer 122.

Regarding claim 18 Topp discloses (Fig. 9 column 9 lines 1-12) the EL display device 100 further comprising a second dielectric layer 124 located between the second electrode 116 and the conductive layer 122, wherein the conductive layer 122, and the first 126 and second 124 dielectric layers overlap the area of the second electrode 116.

Regarding claim 22 Topp discloses (column 5 lines 45-47) that the EL display comprising plurality of segmented phosphor layers.

Regarding claim 24 Topp discloses (Fig. 16 column 12 lines 40-56, column 13 lines 16-20) the backplane of the sixth layer (back electrode) 400 comprising plurality of conductive track elements (segments) intermediate between the coplanar segments of the second electrode and the conductive tracks.

Regarding claim 27 Topp discloses (Figs. 16 and 17 column 12 lines 45-56) the backplane track elements are provided exclusively in areas of the display (366', 390' in the region 304) in which there exists EL material, front electrode and electrically conductive tracks.

Regarding claim 28 it is clearly evident from Fig. 18 that backplane track elements 624 are provided outside of display area at which second electrode is shaped in form of graphical elements.

Regarding claim 29 Topp discloses (Fig. 9 column 8 lines 27-31) a dielectric layer 108 located between the second layer 116 and the third layer 106 of EL material.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,757,128 to Topp.

Regarding claim 21 Topp discloses the claimed invention with plurality of rear electrode segments and phosphor segments except for first layer (first transparent electrode) comprising plurality of separate transparent segments. It would have been an obvious matter of design choice to have the first electrode comprising plurality of segments since the applicant has not disclosed that this configuration of the first electrode solves any stated problem or for any particular purpose.

Claims 15, 31, 33 - 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,757,128 to Topp and further in view of U.S. Patent 6,116,745 to Yei.

Regarding claim 15 Topp does not disclose addressable EL display in an item of clothing.

Yei discloses an item of clothing (a baseball cap, Figs. 1-4) comprising addressable EL display with plurality of display areas having the shape of a graphical element. Yei further notes that clothing articles having EL elements can be used for ornamental or advertising purposes by displaying indicia such as business name, trademark, logo or novelty designs.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to include the addressable EL display of Topp with plurality of display areas which may be separately illuminated in an item of clothing as taught by Yei for ornamental or advertising purposes by displaying indicia such as business name, trademark, logo or novelty designs.

Regarding claim 31 Topp does not explicitly disclose one of second layer, the fourth layer and the sixth layer formed as a conductive track on a printed circuit board.

Yei discloses (Fig. 4 column 3 lines 4-8, 54-67) the conductive tracks 26a and 26b from EL display element connected to electrical connection points 28a, 28b of driving circuit on a printed circuit board 30 for supplying power to the display element.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the fourth layer (conductive tracks or leads) of the addressable EL display of Topp formed as conductive track on a printed circuit board as suggested by Yei for connecting to the driving circuit for supplying power to the display.

Claim 33 essentially recites the same limitations of claims 1 and 15 and hence is rejected for the same reason.

Claim 34 essentially recites the same limitation as of claim 31 and hence is rejected for the same reason.

Claim 35 essentially recites the same limitations of claims 15 and 17 and hence is rejected for the same reason.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,757,128 to Topp and further in view of U.S. Patent 5,747,363 to Wei et al.

Regarding claim 32 Topp and Yei are silent as to the second layer, fourth layer, the fifth layer and the sixth layer formed as layers of a multi-layer printed circuit board.

Wei in pertinent art of making electro-optical package discloses (column 3 lines 7-27) plurality of organic light emitting display directly interconnected to driving circuits

Art Unit: 2879

in a multiplayer printed circuit board. Wei further discloses this configuration provides an integrated electro-optical package and decreases the size and thickness of the device.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to have the second layer, fourth layer, the fifth layer and the sixth layer of the addressable display of Topp formed as layers of a multi-layer printed circuit board as suggested by Wei for providing an integrated electro-optical package and decreasing the size and thickness of the device.

Claims 23,25, 26 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,757,128 to Topp and further in view of U.S. Patent 5,821,691 to Richie et al.

Regarding claim 23 Topp does not disclose fifth layer comprising plurality of dielectric tracks each of which is associated with one of the electrically conductive tracks and each of which dielectric tracks has substantially same two dimensional form but is wider than its associated electrically conductive track and at its first end stops short of the first end of its associated electrically conductive track.

Richie in analogous art of EL panel discloses (Fig. 5) discloses a panel 50 with designs made by patterning the rear electrode and comprising plurality of dielectric tracks (insulators) 77,97 associated with electrically conductive tracks (conductive bridges) 75,95 respectively, each having substantially the same two dimensional form but is wider than the conductive track and at a first end stops short of the first end of its associated electrically conductive track. Richie further discloses (column 2 lines 53-56)

that in a panel with plurality of graphics the insulating layer prevents unintended electrical connections to the conductive layer.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the fifth layer of the addressable display of Topp comprising plurality of dielectric tracks corresponding to plurality of graphic designs as disclosed by Richie each having substantially the same two dimensional form but is wider than the overlaying conductive track and stopping short of the first end of its associated electrically conductive track for preventing unintended electrical connections to the conductive tracks.

Regarding claim 30 Topp does not exemplify the dielectric layer between the second and third layer following the path of the electrically conductive tracks.

Richie discloses (column 2 lines 53-56) that in a panel with plurality of graphics the insulating layer underlying the conductive layer prevents unintended electrical connections to the conductive layer.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to have the dielectric layer following the path of the electrically conductive tracks for preventing unintended electrical connection to the conductive layer.

Regarding claim 25 Topp discloses (column 2 line 66 through column 3 line 4) plurality of backplane track element associated with electrically conductive tracks each backplane track stopping short of the first end of its associated electrically conductive track. Topp does not explicitly disclose the backplane track elements having substantially the same two dimensional form but is wider than its associated electrically

Art Unit: 2879

conductive track. Topp discloses the back plane electrodes shield the phosphor layer from the effects of the group electrode leads which lie behind the back electrode and thus eliminate the stray field introduced by wiring resulting in haloes or ghost images. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the backplane track elements of Topp having substantially the same two dimensional form but wider than its associated electrically conductive track for shielding the phosphor layer from the effects of the group electrode leads which lie behind the back electrode and thus eliminating stray field introduced by wiring resulting in haloes or ghost images.

Claim 26 essentially recites the same limitations as of claims 23 and 25 and hence is rejected for the same reason (see rejections of claims 23 and 25).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 3,573,532 to Boucher, U.S. Patent 6,465,951 to Krafcik et al. and U.S. Patent 5,686,792 to Ensign disclose EL lamp devices. U.S. Patent 4,999,936^{to Calamia et al.} discloses illuminated sign suitable for attachment to an article of clothing having EL lamp.

Art Unit: 2879


Contact Information


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (571) 272-2463. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sikha Roy
Patent Examiner
Art Unit 2879


NIMESHKUMAR D. PATEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800